

# THE ANNALS

AND

## MAGAZINE OF NATURAL HISTORY.

No. 48. SEPTEMBER 1841.

I.—*Description of some Molar Teeth from the Eocene Sand at Kyson in Suffolk, indicative of a new Species of Hyracotherium (Hyr. Cuniculus).* By RICHARD OWEN, Esq., F.R.S., &c.

IN the Eocene sand underlying the red crag at Kingston or Kyson in Suffolk, from which the remains of *Quadrumania*, *Chiroptera*, and *Marsupialia* have already been obtained\*, Mr. Colchester, the discoverer of those mammalian remains, has recently transmitted to me through my friend Mr. Lyell a second collection of fossils, including the teeth of small mammalian animals, some of which are referable to the small Pachydermal extinct genus *Hyracotherium*, established on a nearly entire cranium obtained by Mr. Richardson from the London clay near Herne Bay, in 1839†.

The teeth from Kyson are three true molars and one of the false molars, all belonging to the upper jaw. The crowns of the true molars present the same shortness in vertical extent, the same inequilateral, four-sided, transverse section, and nearly the same structure, as in *Hyracotherium leporinum*; the grinding surface being raised into four obtuse pyramidal cusps, and surrounded by a well-developed ridge, produced at the anterior and outer angle of the crown into a fifth small cusp.

These teeth are, however, of smaller size, as will be seen by the subjoined figures of a corresponding molar from the *Hyrac. leporinum*, fig. 1, and *Hyrac. Cuniculus*, fig. 2. The true molars of these two species further differ in a point not explicable on the supposition of their having belonged to a smaller individual or variety, for the ridge which passes transversely from the inner to the outer cusp is developed



\* See Annals of Natural History, vol. iv. No. 23, Nov. 1839.

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midway into a small crateriform tubercle in the teeth of the *Hyracotherium leporinum*, but preserves its trenchant character in the *Hyrac. Cuniculus*, even in molars which have the larger tubercles worn down.

The premolar, or false molar, in the series of detached teeth from Kyson, which is either the third or fourth, presents the same complication of the crown which distinguishes the *Hyracotherium* from the *Chæropotamus*, but with the same minor modification which distinguishes the true molars of the Kyson species from those of the *Hyrac. leporinum* of Herne Bay; i. e. the two ridges which converge from the two outer tubercles towards the internal tubercle are not developed midway into the small excavated tubercle, as in the *Hyrac. leporinum*, fig. 3, but are simple, as in fig. 4.



The disparity of size between the true and false molars appears to be greater in the *Hyrac. Cuniculus* than in the *Hyrac. leporinum*. This discovery of a second species of the genus *Hyracotherium*, which, hitherto, has been found only in the London clay, tends to place beyond doubt the equivalency of the Kyson sand, underlying the red crag, with the Eocene deposits at the estuary of the Thames, and corroborates the inference deducible from the previously described mammalian, ornithic and ophidian remains of the London clay, that it was deposited in the near neighbourhood of dry land.

I may add, that the collection of teeth and other small organic fragments from the Kyson clay, which included the molars of the small extinct *Pachyderm* above described, likewise included several vertebræ of a serpent, agreeing in every respect, save size, with those of the *Palæophis toliapicus*, recently described by me, from the Isle of Sheppey. The Kyson serpent must have been about seven feet in length: that of Sheppey exceeded ten feet; but I have lately had submitted to me for examination, by my friend Mr. Dixon of Worthing, vertebræ of a distinct species of *Palæophis* from the Eocene clay at Bracklesham, corresponding in size with those of a Boa Constrictor of upwards of twenty feet in length.

Fig. 1. Grinding surface of the crown of the last true molar, right side, upper jaw, of *Hyracotherium leporinum*, from Herne Bay.

Fig. 2. Ditto, of the corresponding molar of the *Hyracotherium Cuniculus*, from Kyson.

Fig. 3. Grinding surface of the last false molar (the fourth counting backwards), left side, upper jaw, of *Hyracotherium leporinum*, from Herne Bay.

Fig. 4. Ditto, of the corresponding tooth of the *Hyracotherium Cuniculus*, from Kyson.

Fig. 5. Last true molar, left side, upper jaw, of *Hyracotherium Cuniculus*, from Kyson.





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